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New Californian Compositae.

By EDWARD LEE GREENE.

PENTACHAETA ALSINOIDES.—Hirsute pubescent, 2-4 inches high, diffusely branched; heads numerous, on filiform peduncles 3-6 lines long, 3-5-flowered; scales of the narrowly turbinate or nearly cylindrical involucre 5 or 6; rays wanting; disk-corollas yellow, filiform, not deeply cleft; akenes fusiform, minutely and, for the genus, very sparingly pubescent; pappus of 3 scabrous bristles equalling the akene in length, or occasionally, in one or more of the akenes, reduced, or nearly obsolete.—*P. exilis*, Gray, var. *discoidea*, Gray. Bot. Cal. i. 305, as to the "very depauperate state about San Francisco" only.

The best specimens of this exceedingly well-marked species were collected by the writer on the Berkeley Hills, May 13, 1882.

The plant differs widely from even the rayless forms of *P. exilis*, in the first place by its diffusely branched and altogether sand-wort-like habit, continuing to branch and flower for weeks after the earliest involucre has matured and shed their akenes.

The akenes themselves are very characteristic, being fusiform and nearly naked, while those of *P. exilis* are obovate, or at most, obovate-oblong, and are always densely white-villous.

HEMIZONIA (HARTMANNIA) LOBBII.—Near *H. Heermanni*, Greene, but much more slender, the flowering branchlets filiform, and the heads consisting of only 3 ray- and 3 disk-flowers; akenes of the ray narrowly obovate-oblong, those of the disk crowned with a pappus of 8-10 linear, chaffy scales.

What is probably the only specimen extant of this uncommonly well-marked species, appears to have been lying for probably thirty years in the herbarium of the late H. G. Bloomer. The sheet to which it is fastened bears this note, in the handwriting of Mr. Bloomer: "*Calycadenia?* No. 323 in Lobb's catalogue is omitted. The plant was probably obtained near Monterey. H. G. B."

Though exactly like *H. Heermanni* in the character of foliage, pubescence, glandulosity, etc., it is very distinct by its extremely few flowered heads, and especially by the pappus of its disk-akenes. It forms an interesting third member of what may be called the *virgata* group of the genus.

HEMIZONIA (EUHEMIZONIA) CLEVELANDI.—A foot or two high, simple or branching, very hirsute below, and more or less glandular above; leaves linear, entire; heads small or middle-sized, racemose, sessile or short-peduncled; scales of the involucre with short tips, their margins not at all enfolded over the inner face of the obovate, rather sharply triangular akenes; rays 6-10, white, deeply 3-lobed; outer series of chaff united into a scarcely toothed cup.

The plant was collected many years since in Lake County, by

Dr. Bolander, and was obtained by the present writer in Napa County, in the autumn of 1874; but its specific character, as distinct from *H. luzulaefolia*, D.C., was first recognized about a year ago on the appearance of specimens freshly collected by Mr. Cleveland at Allen Springs, in Lake County.

In characters of flower and fruit it is so very like *H. luzulaefolia* that I detect no difference save in the manner in which the involucreal scales hold the akenes. In the latter their margins are folded over the inner face of the akene, so that the seeds falling to the ground carry the scales with them; but in *H. Clevelandi* they are in this respect wholly free, and falling, leave the scales still adhering to the receptacle.

The pubescence of the two is, however, very dissimilar, that of the one being appressed villous, and even floccose-woolly, and that of the other quite stiffly and setosely hirsute. *H. Clevelandi* has, moreover, fewer and larger glands. But the most obvious distinction between the two species is one so clear as to call for a modification of the character of the section of the genus to which they belong. I refer to the strictly racemose inflorescence of the new species; that of the other members of the group being uniformly corymbose.

HEMIZONIA (CALYCADENIA) CEPHALOTES.—Stem a foot or more high, simple, or with some assurgent branches from the base; lower portions of stem and branches leafy, with smaller leaves fascicled in the axils; heads densely capitate-crowded at, and near the summit; rays seldom more than one or two in each head, or often wholly wanting, and the disk-flowers as often reduced to three or even two; herbage yielding a pleasant balsamic fragrance.—*Calycadenia cephalotes*, D.C., Prod. v., pp. 695, and Torr. & Gray Fl. ii., p. 401. *Hemizonia multiglandulosa*, Gray, Bot. Cal. i., p. 366 in part.

The study of abundant specimens from all parts of the State, as well as careful observations on living plants, convinces me that this plant well merits specific rank. True *H. multiglandulosa* has an entirely different habit, the whole plant, from base to summit of the stem, being evenly branched, so as to form a contracted panicle, the heads freely scattered at the ends of the numerous branchlets. Its herbage has also a very different, and disagreeable odor.

HEMIZONIA (CALYCADENIA) OPPOSITIFOLIA.—Stem slender, a foot or less in height, simple or with spreading, opposite branches; leaves narrowly linear, all of them opposite; heads in pairs, closely sessile, one in the axil of each leaf, and an odd one at the summit of each branch; rays 3, very deeply 3-cleft, white or rose-color, changing to rose-purple; akenes and pappus much as in *H. cephalotes*; tack-shaped glands very few and small.

Collected near Chico, May 30, 1882, by Dr. C. C. Parry.

The species is near akin to the preceding, but well characterized by the strictly opposite arrangement of the leaves, branches and heads, a character quite new in the genus, and also by the remarkable paucity of glands, these being amber-colored, not black, as in the allied species.

VERBESINA VENOSA.—Shrubby, two feet or more high, the branches stout; leaves scabrous-puberulent, deep green, with coarse

and prominent light-colored veins, ovate or ovate-lanceolate, two inches long, entire or with a pair of coarse teeth, or hastate lobes at base, abruptly tapering into a short, winged petiole; flowering branchlets leafy below, naked above and terminating in a loose corymb; involucre shorter than the disk; rays conspicuous; akenes sparingly villous and bearing a pair of stout, persistent awns of more than their own length.

The specimens lie in the herbarium of the California Academy, marked "Cedros Islands," and were probably brought thence, many years ago, by Dr. Veatch.

MICROSERIS (EUCALAIS) ATTENUATA.—Leaves incisely and deeply pinnatifid, the divisions linear; scapes about a foot high; involucre $\frac{1}{2}$ inch long, and narrow; akenes fusiform, $4-4\frac{1}{2}$ lines long, very slender, especially from midway upwards; pappus $4\frac{1}{2}-5$ lines long, the elliptic-lanceolate scale more or less villous, and about one-third the length of the slender, strongly barbellate awn.

Collected by the writer on the 25th of April, 1882, on the grounds of the University of California, at Berkeley, where it grows in great abundance, as also on the hills adjacent. The akenes and pappus are extremely long and slender for the group into which it falls, but it is only as to length that they resemble those of the *Calocalais* section. The plant is a genuine *Eucalais*, a section whose best technical character is one which does not appear to have been recognized by any author, namely, the peculiar convolute aestivation of the pappus-scales. But the adoption of this character would exclude from the group *M. Bigelovii*, which has the imbricated aestivation, though not the habit of *Calocalais*.

New Species of North American Fungi.

By J. B. ELLIS.

VALSA LUTESCENS.—Stroma cortical; perithecia subglobose, 10 to 15, subcircinating, disk at length erumpent, brown, convex, with the short, cylindrical, stout, obtuse, substellate-cleft ostiola ranged round its circumference; asci lanceolate, spore-bearing part $.0013' \times .00025'$; sporidia cylindrical, hyaline, curved, $.00025'-.0003' \times .0001'$.

On dead limbs of *Quercus coccinea*. January. The wood beneath the bark occupied by the fungus is generally stained light yellow. (N. A. F., No. 876.)

VALSA BINOCULATA.—Perithecia 3 to 6, rather large, closely imbedded in a stroma formed of the substance of the inner bark, and circumscribed by a black line which does not, however, penetrate to the wood; ascigerous nucleus white, soft and pasty when fresh; ostiola erumpent through cracks in the epidermis, subglobose, with a large irregular opening; asci clavate-cylindrical, $.005'-.006' \times .006'-.0007'$; paraphyses stout and granular; sporidia uniseriate, broadly elliptical, nearly hyaline, uniseptate and constricted, with a large nucleus in each cell, $.0008'-.0009' \times .0005'-.00055'$.

The ostiola are often entirely concealed so that outwardly there is no trace of the fungus.

On dead trunks of *Magnolia glauca*.